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National framework for consolidating and validating the institutional graduates related databases that will be used in tracer studies

Foreword

Consolidating and validating the institutional databases concerning the graduates is one of the first steps required by the study and has a major impact on its results. For this, the particular characteristics of the classes the study addresses have to be considered.

Likewise, attention must be paid to the differences between the higher education institutions in Romania as far as experience and institutional capacity to support such projects are concerned. Consequently, a flexible approach, that can be adjusted to specific conditions is necessary.

Aspects identified

The process of consolidation and validation of the higher education graduates' data consists in configuring the database that will contain their identification and contact data and in validating this data. This may be influenced by a series of internal and external factors:

Factors internal to the academic environment

Internal factors have direct influence on the process of updating and validating the graduates' data in the database. Some of these are:

- *Existence of the graduates information database at university level (e.g. identification data of the graduate, contact data etc.)*
Notes: At present, in the academic environment there is no common, standardized system containing graduates information that could provide a common database of information to facilitate the application of the questionnaire. The creation of the national database of students from higher education system (after the implementation of the National Student Enrollment Registry project – NSER) will represent a major opportunity for further implementation of monitoring studies.
- *Data management of the information regarding students, at university level*
Notes: The management of student data on electronic support has vastly improved lately, generating significant differences between classes as far as the format of student data registration is concerned.
- *University's interest in maintaining close connection with its graduates through specialized structures (e.g. Alumni office, discussion groups etc.)*
- *University's interest in tracking graduates' insertion on labor market, through periodical implementation of such monitoring studies (their experience in the field would be helpful)*

Factors external to the academic environment (social and economic factors)

External factors are not related to the academic environment, but may have an influence on the process of updating and validating the graduates' data existing at university level.

- *The international/European experience in the field of monitoring studies*
- *The lack of an integrated public system, similar to electronic governance system through which the citizens' data, as graduates or active persons, could be correlated with the data from universities.*
- *The dynamics of the telephone communications market in Romania*
Notes: In the last five years, the Romanian telephone communications market has been very dynamic and, as a result, the probability that a person has changed his/her phone number is very high. Nowadays, the possibility to „transfer” one's number to another network may lead to a decrease in this trend (very important to know in order to establish the best approach for future studies)
- *The dynamics of the e-mail services market*
Notes: Regarding the e-mail services, the offer is very diverse, as many people have given up their old e-mail addresses for new facilities (such as gmail). This change adds to the natural habit of using work e-mail addresses.
- *The dynamics of the social networks*
Notes: Recently, as the „Web2.0” phenomenon emerged, there has been an increase in the number of online social networks and their users (e.g. HI5, Facebook etc). The users' profiles contain various identification data and there is also the possibility to

create your own friends network or membership groups among which graduates groups are frequent.

General stages in consolidating and validating the database concerning the graduates (at university level)

1. Identification, at university level, of the existing information (on electronic and/or paper support) regarding the bachelor studies graduates (class 2004-2005 and class 2008-2009).
Notes: Each university keeps a record of its graduates' data and these include a minimal set of information, provided at enrollment, such as: their first and last name, postal address, personal numerical code and maybe telephone number and e-mail address. These could be supplemented with other types of information, that can be added at a later moment: e-mail address used during studies; e-mail address for a particular graduates' group; other phone numbers; home address at graduation etc. At faculty level, there may also be cases of further communication with graduates that ensures the existence of updated data.
2. Uploading the existing information (previously identified) to a centralized database at institutional level (university/faculty level), starting from a national pre-established database structure¹, and validating the uploading procedure.
 - a. Direct upload to the institutional centralized database of the electronic existing data.
 - b. Completing the database with information existing on paper support (where applicable; it is recommended that the activity takes place at faculty level, but it is also possible to complete the data directly into the institutional centralized database).
 - c. Verifying the uploaded data (through pre-defined validation keys: graduates number by faculty/study program/form of study etc. or checking it by a different person than the operator). Each university may use its own check keys.
3. Filling out the institutional centralized database with missing data concerning graduates (where applicable; it is recommended that the activity takes place at faculty level, but it is also possible to complete the data directly into the institutional centralized database), using different types of specific searching methods.
Notes: The search for missing contact data will first start with the Internet, using the existing data (See for example the article: http://www.computerworld.com/s/article/9125058/What_the_Web_knows_about_you). Subsequently, other specific searching methods may be used (see the methods described in the following stage), and if possible and not very expensive as far as needed resources are concerned, the university may resort to information provided by White Pages or other phone books available at national level or by the national population register (based on personal numerical code - PNC).
4. Validating² the existing information regarding the graduates from the institutional centralized database, using specific methods and techniques.

There are some general methods and techniques one can use in order to update the database (filling out and validating the database information regarding higher education graduates – bachelor studies). A brief presentation of the possible methods and tools to be used and some of their advantages and disadvantages is rendered below. Using one or more of these methods will depend on the particular situation of each university.

Each method or technique may be accompanied by a message/an invitation of participation to the study.

- a. *Direct discussion with graduates* (face-to-face interviews between a professional interviewer and the graduate)

Advantages: Allows a flexible approach and ensures high response rate.

Disadvantages: Finding a direct method of contact is a difficult process, involves high financial costs and human resources effort and you don't have full control of the interviewers.

Notes: This method could be applied especially to the 2008-2009 class, at picking up their bachelor's degree. This method allows presentation of details regarding the monitoring study

¹ The national pre-established database structure contains a minimal set of graduates' information that the university needs in order to ensure the proper implementation of the monitoring study. This structure will be provided by the central team and it will offer the university the possibility to add new fields with other existing information.

² By applying the specific methods and techniques mentioned it is possible to both fill in and validate the missing information.

through informative materials, in order to raise the graduates' response rate.

Important: The status regarding the application of this method will be filled in in the database: data confirmed by the graduate, data not confirmed because of the graduate's refusal to cooperate, the impossibility to contact the graduate directly etc.

- b. *E-mail* (sending each e-mail address from the database of former students from 2004-2005, 2008-2009 classes a letter for confirming the accuracy of their contact data)

Advantages: Implies a low financial cost and the human resources implication effort is not that high (sending personalized messages to an e-mail list).

Disadvantages: There is a high possibility that the e-mail has changed in the meantime and we can't get an answer from the graduate.

Notes: If this information (the e-mail address) can be found in the database, we can ask each graduate to confirm and update his/her own contact details, and we can also ask him/her about the updated contact data of three other known colleagues.

Important: The status regarding the application of this method will be filled in in the database: data confirmed by e-mail, by the graduate; data not confirmed because the graduate's e-mail is invalid (we received an error message), no answer for more than 2 weeks etc.

- c. *Phone* (using the phone to contact the graduates included in the database of former students from 2004-2005, 2008-2009 classes, in order to confirm the accuracy of their contact data)

Advantages: Allows a flexible approach, offers an immediate feedback and ensures a bigger response rate.

Disadvantages: There is a high possibility that the phone number has changed in the meantime; implies high financial costs and human resources effort.

Notes: The graduates whose data have not been confirmed by e-mail and whose phone numbers are in the database can be asked to confirm and update his/her own contact details and also about the updated contact data of three other known colleagues (at least an e-mail address or a phone number).

Important: The status regarding the application of this method will be filled in in the database: data confirmed by phone; data not confirmed because of some contact errors (the graduate doesn't answer the phone, phone number not assigned, the phone is off, the phone number has changed etc.) or because of the graduate's refusal to participate in the study.

- d. *Classic letter (on paper)* (sending to each address from the database of former students from 2004-2005, 2008-2009 classes a letter of confirmation of the contact data accuracy)

Advantages: The home address (i.e. parents address) doesn't change too often, and even if it changes there is a possibility that the letter reaches the recipient.

Disadvantages: Implies high financial costs and human resources effort and it takes a long period of time before receiving an answer.

Notes: The graduates whose data have not been confirmed neither by e-mail, nor by phone, and whose home address is in the database, can be asked to confirm and update their own contact details or, in case the letter is received by a person that knows the graduate, that person can be asked for other means of contacting the graduate. Also, we can ask the graduate for the updated data (at least an e-mail address) of three other known colleagues.

Important: The status regarding the application of this method will be filled in in the database: data confirmed by mail; data not confirmed because of: the return of the letter, no answer for more than 1 month.

- e. *Forum* (developing virtual meeting spaces for graduates, using Internet facilities and instruments)

Advantages: Allows a flexible approach and lower financial costs.

Disadvantages: Involves a high degree of uncertainty regarding the participation level and its management is very time consuming.

Notes: For the graduates whose data have not been confirmed through neither of the above mentioned methods, a forum developed on the university's web page can be an alternative method for filling in and validating their data.

Important: The status regarding the application of this method will be filled in in the database: data confirmed by the graduate after accessing the forum; data not confirmed because the graduate hasn't accessed the forum, he refused to participate in the study.

- f. *Combined methods* (combining the methods previously described – e.g. simultaneous use of e-mail and forum – or by applying successively, in cascade, more of the mentioned methods)

Notes: This method (combining or applying successively the methods described above) can be applied in order to maximize the results and minimize the costs according to each university's case.

5. Integrating, at national level, the validated data from the institutional centralized databases (optional)

After analysing the advantages and disadvantages of the methods and instruments that can be used for validating and consolidating the university database concerning the graduates, we consider that the most efficient approach for achieving the project's goals is the use of a sequential combined method or, better said, a „cascade” method. **The general steps described above should be adjusted to the institutional context of each university, in order to achieve the best results (maximizing the results and minimizing the costs).**

General remarks regarding the databases' consolidation and validation

- Though it doesn't have direct influence on the process, an important effect as far as the consolidation and validation of the databases are concerned can be achieved through advertising actions undertaken by each university involved.
- There are at least 6 fields in the Reference Data Set that are mandatory during the contact process (for the elaboration of the invitation letters) and as well as for the responses' validation. It is important that this pieces of information (**first and last name, faculty, study programme, class (cohort), gender**) appear in the database regarding the graduates of each university, considering the fact that they are essential for the validation process and the analysis and final reports stage.
- Depending on each university's decision, the phase of contact data validation (stage 4) can be implemented at the same time with the contact process, without having to validate the contact data separately before sending the invitations.
- During the contact process, the initial (consolidated) database can be extended and filled out by adding new graduates.
- During the field phase, a series of columns that are necessary for the invitations' sending stage will be added to the Reference Data Set: access code (included in the invitation and used in order to fill in the questionnaire), **contact status, response status** (fields that allow the monitoring of the contact process).

Recommendations for consolidation and validation of the databases regarding the graduates from the 2006 and 2010 cohorts

The third year of the project is considered to be a transition phase to the annual implementation of independent monitoring studies and this is why the consolidation and validation of the databases regarding the graduates stands for an activity that has to be implemented by the universities inhouse, depending on the particular circumstances within each one. When doing this activity, the following recommendations have to be taken into consideration:

1. The current tracer study addresses two cohorts of bachelor's degree graduates, 2006 and 2010, one year and five years from graduation. This timespan is significant and requires distinct approaches due to some external and internal factors such as the ones mentioned above, referring both to the dynamics of the social and economic environment and to the academic environment in particular.
2. For a long term sustainability of tracer studies it is important to consider both the flexible use and the simplification of procedures, so that they can be easily adapted to the specific institutional circumstances annually, which will allow cost optimization and results maximization.
3. In case the invitations are sent by e-mail, after the 2a stage of database consolidation (uploading the data from electronic support), 2b stage (filling out the database with the data from paper support) is recommended, firstly, for the graduates with e-mail address (phone number or other contact data) and then for the other graduates; the validation actions consist of filling out and updating the e-mail address of the graduates in the database.
4. In order to obtain the best results of the consolidation and validation process and, then, of the field phase, the tracer study can be advertised by resort to various methods such as:
 - Advertising the results of the first survey conducted on the 2005 and 2009 and also announcing the launch of the new tracer study conducted on the 2006 and 2010 cohorts on the university's website, in the local media and at student dedicated events;
 - Sending all the graduates that requested so a selection of the institutional results, also asking for permission to send them information regarding the results of the new tracer study (that is about to be launched);

- Using printed (posters, flyers) or electronic advertising materials (news on the university's/faculties' websites; on social networks) and sending press releases to the local media, in order to advertise the contact process for the 2006 and 2010 cohorts.
- 5. In order to optimize the results of the study and, implicitly, the institutional team's activity, constant communication with the other teams involved is recommended, which will help sharing experience, solutions for activities' optimization, examples of best practices of database consolidation and validation.
- 6. It is important that any problem that occurs institutionally be pointed out to the central team, so that there can be found the most appropriate means to solve it.